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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PUENTE, EVA YI ZHENG	
ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/626,432	TOJO ET AL.	
	Examiner	Art Unit	
	EVA Y. PUENTE	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/14/08 have been fully considered but they are not persuasive. Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected.

Applicant's argument – Applicant argues that prior art Swanke does not teach "output a spread spectrum processed signal that oscillates in positive and negative directions" as currently claimed.

Examiner's response – Swanke discloses spreading and despreading method to suppress unwanted signals in a wireless receiver system. Applicant's assertion, Swanke only used frequency hopped signal in a spread and despread state is incorrect. Swanke's spreading synthesizer is a pseudo-random spreader (Col 3, L4-6 and Col 5, L5-6). As described in U.S Patent (5,664,750), Fulton teaches that pseudo-random sequences are expressed as +1 and -1 (Col 7, L17-20; Fig.8). U.S Patent (6,606,344) also discloses spread spectrum generator (116 in Fig. 2) and its corresponding timing diagram (Fig.3). It is common knowledge and well known in the art that the pseudo random sequence comprises a signal with a combination of sinusoidal waveforms having different frequencies. Thus, oscillate in the positive and negative directions of the timing spectrum. Therefore, Swanke discloses all the claimed limitations.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable by Swanke (US 5,564,097).

a) Regarding to claim 1, Swanke disclose a data communication apparatus comprising:

a transmission side (inherent in a communication system); and

a reception side that includes (Fig. 2):

a spread spectrum processing part that performs spread spectrum process on an input signal and outputs a spread spectrum processed signal that oscillates in positive and negative directions (block 208 and 206 in Fig. 2, wherein the spreading synthesizer is a pseudo-random spreader (Col 3, L4-6 and Col 5, L5-6); it is common knowledge and well known in the art that the pseudo random sequence comprises a signal with a combination of sinusoidal waveforms having different frequencies. Thus, oscillate in the positive and negative directions of the timing spectrum.);

an analog-to-digital conversion part that digitally converts the spread spectrum processed signal (block 214 in Fig. 2); and

an inverse spread spectrum processing part that performs an inverse spread spectrum process of said spread spectrum process on the digitally converted signal (block 218 in Fig. 2; Col 3, L1-14 and Col 4, L60-62).

Swanke failed to explicitly disclose the digital sampling timing of the spread spectrum processed signal is in sync with an oscillation timing of the spread spectrum processed signal.

However, Swanke depicts a radio receiver comprises a spreader (208) and despreader (218) in order to remove unwanted signal in Fig. 2. The synchronization circuitry (216) controls clock timing and delay between the spreader and the despreader (Col 2, L9-11). Since the spreading signal (208) and dispreading signal (218) are synchronized by the synchronization circuitry (216), sampling rate of A/D (214) via CLK signal is also in sync with the local oscillating clock signal that is input to mixer (206). The synchronized spreading and dispreading of a received radio signal is utilized to track desirable signal (Col 2, L26-29). Therefore, it is obvious to one of ordinary skill in art to recognize that the CLK is in synchronization with the local oscillator clock signal (L.O) that is input to mixer (206). By doing so, detect and remove unwanted signal in a spread spectrum receiver.

b) Regarding to claims 2 and 7, Swanke disclose wherein said spread spectrum process is performed using a predetermined PN sequence (inherent in 208 and 216 in Fig. 2).

c) Regarding to claims 3 and 8, Swanke disclose wherein a PN sequence number of said PN sequence is set to a value that is adequate for substantial improvement in

the precision of said analog-to-digital conversion process so that transmission data contained in the input signal can be detected with predetermined precision (216 in Fig. 2).

d) Regarding to claims 4 and 9, Swanke disclose further comprising:

a gain controlling part that performs a signal gain controlling process on an input signal (204 in Fig. 2), wherein said spread spectrum processing part performs a spread spectrum process on a signal that has undergone said signal gain controlling process (block 208 and 206 in Fig. 2).

e) Regarding to claim 6, Swanke disclose a data reception method comprising:

a spread spectrum processing step of performing a spread spectrum process on an input signal and outputs a spread spectrum processed signal that oscillates in positive and negative directions (block 208 and 206 in Fig. 2, wherein the spreading synthesizer is a pseudo-random spreader (Col 3, L4-6 and Col 5, L5-6); it is common knowledge and well known in the art that the pseudo random sequence comprises a signal with a combination of sinusoidal waveforms having different frequencies. Thus, oscillate in the positive and negative directions of the timing spectrum.);

an analog-to-digital conversion step of digitally converting the spread spectrum processed signal by sampling the spread spectrum processed signal (block 214 in Fig. 2); and

an inverse spread spectrum processing step of performing an inverse spread spectrum process of said spread spectrum process on the digitally converted signal (block 218 in Fig. 2; Col 3, L1-14 and Col 4, L60-62).

Swanke failed to explicitly disclose the digital sampling timing of the spread spectrum processed signal is in sync with an oscillation timing of the spread spectrum processed signal.

However, Swanke depicts a radio receiver comprises a spreader (208) and despreader (218) in order to remove unwanted signal in Fig. 2. The synchronization circuitry (216) controls clock timing and delay between the spreader and the despreader (Col 2, L9-11). Since the spreading signal (208) and dispreading signal (218) are synchronized by the synchronization circuitry (216), sampling rate of A/D (214) via CLK signal is also in sync with the local oscillating clock signal that is input to mixer (206). The synchronized spreading and dispreading of a received radio signal is utilized to track desirable signal (Col 2, L26-29). Therefore, it is obvious to one of ordinary skill in art to recognize that the CLK is in synchronization with the local oscillator clock signal (L.O) that is input to mixer (206). By doing so, detect and remove unwanted signal in a spread spectrum receiver.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swanke (US 5,564,097) in view of Kato et al. (US 6,021,137).

Regarding to claim 5, Swanke disclose a communication system comprising:

a transmission side (inherent in a communication system); and

a reception side that includes (Fig. 2):

a spread spectrum processing part that performs spread spectrum process on an input signal and outputs a spread spectrum processed signal that oscillates in positive and negative directions (block 208 and 206 in Fig. 2, wherein the spreading synthesizer

is a pseudo-random spreader (Col 3, L4-6 and Col 5, L5-6); it is common knowledge and well known in the art that the pseudo random sequence comprises a signal with a combination of sinusoidal waveforms having different frequencies. Thus, oscillate in the positive and negative directions of the timing spectrum.);

an analog-to-digital conversion part that digitally converts the spread spectrum processed signal by sampling the spread spectrum processed signal (block 214 in Fig. 2); and

an inverse spread spectrum processing part that performs an inverse spread spectrum process of said spread spectrum process on the digitally converted signal (block 218 in Fig. 2; Col 3, L1-14 and Col 4, L60-62).

Swanke failed to (1) explicitly disclose the digital sampling timing of the spread spectrum processed signal is in sync with an oscillation timing of the spread spectrum processed signal; and (2) the teaching of a power line transmission path in the communication system.

However, Swanke depicts a radio receiver comprises a spreader (208) and despreader (218) in order to remove unwanted signal in Fig. 2. The synchronization circuitry (216) controls clock timing and delay between the spreader and the despreader (Col 2, L9-11). Since the spreading signal (208) and dispreading signal (218) are synchronized by the synchronization circuitry (216), sampling rate of A/D (214) via CLK signal is also in sync with the local oscillating clock signal that is input to mixer (206). The synchronized spreading and dispreading of a received radio signal is utilized to track desirable signal (Col 2, L26-29). Therefore, it is obvious to one of ordinary skill in

art to recognize that the CLK is in synchronization with the local oscillator clock signal (L.O) that is input to mixer (206). By doing so, detect and remove unwanted signal in a spread spectrum receiver.

In addition, Kato et al. disclose such a power line functioning as a data transmission path for transmitting data (5 in Fig. 1); and a data transmission apparatus that terminates the power line (1-4 in Fig. 1). It is well known that communication system can be used with power line, wireless, infrared, laser and many other methods. Therefore, it is obvious to one of ordinary skill in art to combine the teaching of power line by Kato et al. in the receiver system of Swanke. By doing so, perform data transmission with better power control.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Puente whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Puente
/E. Y. P./
Examiner, Art Unit 2611

June 12, 2008

/Chieh M. Fan/
Supervisory Patent Examiner, Art Unit 2611